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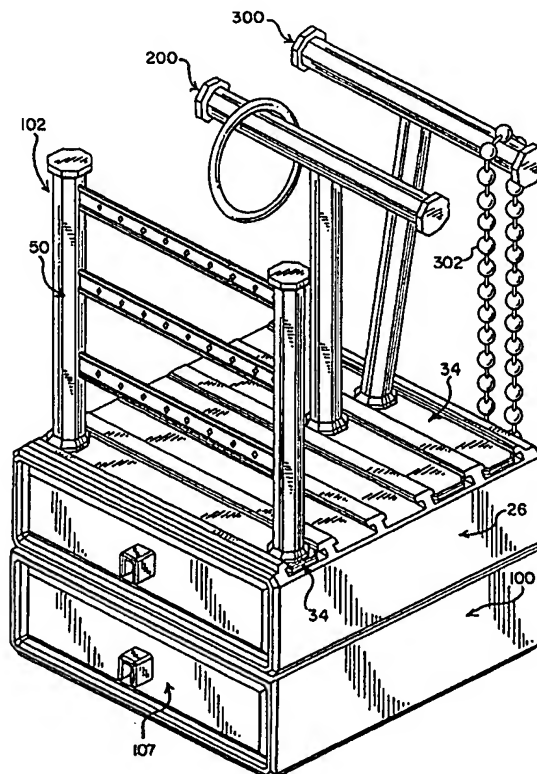
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(54) Title: JEWELRY HOLDER WITH AT LEAST TWO MOVABLE AND INTERCHANGEABLE STANDS

(57) Abstract

A jewelry holder with at least two movable and interchangeable stands (50, 200, 300) and a base (20). The base may be in the form of a box with a slidable drawer (107) in which a ring holder platform (400) may be inserted. The base has a plurality of grooves (34) to receive jewelry stands. The jewelry stands have various configurations to hold earrings, necklaces and bracelets.



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## JEWELRY HOLDER WITH AT LEAST TWO MOVABLE AND INTERCHANGEABLE STANDS

The present application is a continuation-in-part of U.S. Serial No. 08/665,734 filed June 14, 1996, pending.

### BACKGROUND OF THE INVENTION

The present invention relates to a jewelry holder with at least two movable and interchangeable stands. While several different kinds of jewelry holders are known, there is a need for a jewelry holder that is simple to manufacture yet provides easy access to the jewelry.

One type of jewelry holder is in the form of a container with relatively high side and back walls and a top that is hinged to the back wall to permit access into the container. Earring stands are fixed to the bottom of the container. A particular problem with this type of earring holder is that it is very difficult to insert and remove the jewelry from the stands because the side walls and hinged top limit the amount of space available.

To solve that problem, it has been proposed to provide an earring rack on a base. The rack has legs that fit within holes provided in the base. A particular disadvantage to this type of jewelry holder is that the stand, if removed from the base, cannot be placed on a table, dresser top, or similar horizontal surface without falling over.

Yet another type of jewelry holder proposes racks that slide into a box-like container having a single open side. Again, a problem with this type of jewelry holder is that because the racks are designed as an integral part of the box-like container when the racks are removed from the container, the rack cannot be placed on a horizontal surface without falling over. In addition, because there is only one open side, access to the jewelry is difficult.

## SUMMARY OF THE INVENTION

According to a first aspect of the invention there is provided a jewelry holder having a first base having a first groove and a second groove, a first stand and a second stand removably located on the base. The first and second stands have a bottom member that is slidably receivable in either the first groove or the second groove and the bottom member is configured to allow the first and second stands to be self-supporting when removed from the base.

According to a second aspect of the invention there is provided a jewelry holder having a box, a first stand and second stand. The box has a top spaced from a bottom, the top having at least a first and a second groove to slidably receive a first and a second stand, a first side wall opposite and spaced from a second side wall, and a front opposite and spaced from a rear wall such that the rear wall is substantially normal to the first and second side walls and the front defines an opening to slidably receive a drawer. The first and second stands are removably located on the base. The first and second stands have a bottom member that is slidably receivable in either the first groove or the second groove and is configured to allow the first and second stands to be self-supporting when removed from the base.

According to a third aspect of the invention there is provided a ring holder having a platform and a plurality of mounds integrally formed on the platform. The plurality of mounds have a shape that allow rings to be mounted thereon.

According to a fourth aspect of the invention there is provided a jewelry holder having a first box, a drawer and a ring holder. The first box has a top spaced from a bottom, a first side wall opposite and spaced from a second side wall, and a front opposite and spaced from a rear wall such that the rear wall is substantially normal to the first and second side walls and the front defines an opening to slidably receive a drawer. The drawer is slidably received in the opening of the box. The ring holder has a platform and a plurality of mounds integrally formed on the platform. The plurality of mounds have a shape that allows rings to be mounted thereon.

- 3 -

**BRIEF DESCRIPTION OF THE DRAWINGS**

Figure 1 is a perspective view of the preferred embodiment of the jewelry holder with at least one movable stand of the present invention.

Figure 2 is a front view of a stand that has been removed from the base of the jewelry holder of FIG. 1.

Figure 3 is a cross-sectional view of a portion of the stand shown in FIG. 2 taken along line 3-3.

Figure 4 is a perspective view of the base of the jewelry holder of FIG. 1 with each of the stands removed and the drawer partially open.

Figure 5 is a perspective view of an alternative embodiment of the base, wherein the base is in the form of a slab.

Figure 6 is a front view of an alternative embodiment of a stand that may be used on a base having a plurality of depressions as well as on the base shown in FIGS. 2 and 5.

Figure 7 is a perspective view of another preferred embodiment of a jewelry holder with a stackable base, a bracelet tree and a necklace tree.

Figure 8 is a bottom view of the first base shown in Figure 7.

Figure 9 is a side view of a second base shown in Figure 7 according to a preferred embodiment of the present invention.

Figure 10 is a front view of the bracelet tree shown in Figure 7.

Figure 11 is a front view of the necklace tree shown in Figure 7.

Figure 12 is a side view of a necklace tree shown in Figure 7.

Figure 13 is a front view of a ring holder platform according to a preferred embodiment of the present invention.

Figure 14 is a top view of the ring holder platform shown in Figure 13.

**DETAILED DESCRIPTION OF THE INVENTION  
AND PREFERRED EMBODIMENTS**

In accordance with a preferred embodiment, the jewelry holder with at least one movable stand 10 includes a base 20 and at least one stand 50. The

- 4 -

stand has at least one crosspiece 56 with at least one aperture 58 that can slidably receive a post or stem of an earring. In addition, the stand 50 can be removed from the base 20 to permit the earrings to be easily viewed and accessed.

Referring now to FIGS. 1-4, the most preferred embodiment of the present invention is shown. Turning to FIGS. 1 and 4, the jewelry holder 10 includes a base 20 in the form of an open box having a top 22 opposite and spaced from a bottom 24, a first side 26 joining the top and bottom and a second side 28 opposite the first side and also joining the top and bottom. The box also includes an open front 30 and a rear 32 opposite the front and substantially normal to the first and second sides and joining the top with the bottom. In this most preferred embodiment, the open front slidably receives a drawer 40 which can be used to store jewelry and other objects.

In an alternative embodiment as best seen in FIG. 5, the base 120 is in the form of a slab having a top 122 and a bottom 124, a first side 126 and a second side 128 opposite the first side, and a front 130 and a rear 132 opposite the front and substantially normal to the first and second sides.

The base (20, 120) receives at least one stand 50 and, preferably a plurality of stands. Referring to FIGS. 1 and 4, it can be seen that the base includes at least one and, preferably a plurality of spaced apart grooves 34 that are sized to slidably receive a stand 50. The grooves 34 may slidably receive a stand 50 in either of two directions: from the side or from the top. The grooves 34 may extend at least a portion from either the first or second side to the opposite side. Alternatively, the grooves may extend at least a portion from either the front or the rear to the opposite end. Where more than one groove is provided, they are oriented parallel to each other. The grooves may be provided in any suitable manner and, as shown in FIG. 4 may be provided by orienting ridges 36 in a spaced apart fashion parallel to each other.

As best seen in FIGS. 1 and 2, each stand 50 includes a pair of spaced apart supports 52 connected by at least one and preferably by a plurality of crosspieces 56. In a preferred embodiment each crosspiece 56 has at least one and preferably a plurality of apertures 58 having a size suitable to receive a post or stem

- 5 -

of an earring. Clip-on type earring of course can be clipped directly on the crosspiece. In this way an earring can be easily stored on the crosspiece 56. In the most preferred embodiment, each stand 50 includes a plurality of spaced apart parallel crosspieces 56 that are horizontally oriented to connect the supports. In the most preferred embodiment, each crosspiece 56 includes a plurality of spaced apart apertures 58 so that a number of earrings may be stored on each stand. Alternatively the crosspiece 56 need not have apertures in which case only clip-on type earring could be mounted on the crosspiece.

To permit simple and easy viewing access to stored earrings, the stands 50 are provided with a base 54 that is shaped and sized to permit slidable removal from the base 20 and, in particular, slidable removal from the grooves 36. In this way, when it is desired to store one or more earrings or to view and remove one or more earrings, the stand 50 may be slidably removed from the base (20, 120). The stand 50, when removed from the base (20, 120), is self-supporting. The stand 50 may be slidably removed in either of two directions: from the top or from the side. As shown in FIG. 2, the base 54 of the stand 50 may extend from one support 52 to the other and thus provide a more stable structure for the stand, especially when the stand is removed from the base (20, 120). Alternatively, as best seen in FIG. 6, the base 154 of the stand may simply be provided at the foot of each support. When the base 154 of the stand is provided in this manner (i.e., as shown in FIG. 6) it will be understood by one of skill in the art that the stand may be easily slidably located and removed from either of the bases as shown in FIGS. 4 and 5, as well as on a base wherein the top of the base has a plurality of depressions in a shape complementary to the shape of the base 154 so that the stand may be slidably positioned within the depressions.

In another embodiment, the base may be as shown in FIG. 5. In this embodiment, the base 120 is not in the form of a box with an open front but rather has a slab configuration. In yet another embodiment, the top of the base may have several grooves in the form of depressions wherein each depression can receive a complementary shaped base provided on the bottom of each support.

- 6 -

FIG. 3 is a cross-sectional view of a portion of the stand shown in FIG. 2 taken along line 3-3. FIG. 3 shows the dimension of an aperture formed in the crosspiece of the stand.

In a preferred embodiment, the stands and base are formed of a plastic, acrylic resin or a plastic consisting essentially of polymerized methyl methacrylate such as LUCITE™ or polystyrene.

Figure 7 is a perspective view of another preferred embodiment of a jewelry holder with a stackable base, a bracelet tree and a necklace tree. The jewelry holder 102 includes a first base 20 and a second base 100 stackable underneath the first base 26. The first base 20 has grooves 34 as described in parent application Serial No. 08/665,734, filed June 14, 1996.

In addition to the earring stand 50 there is also provided a bracelet tree 200 and a necklace tree 300. Like the earring stand 50 the bracelet tree 200 and necklace tree 300 are slidably received in the same grooves 34 formed on the top surface of the base 20 as receives the earring stand 50. In a preferred embodiment the necklace tree 300 is positioned in the back most groove 34 on the base 20 and preferably is slightly tilted so that a longer necklace 302 can freely hang from the necklace tree 300 without touching the top surface of the base 20. Because the earring stand 50, bracelet tree 200 and necklace tree 300 are all slidably received in the grooves 34 they can be positioned in any groove 34 located on the top surface of the base 20. Thus these arrangements on the top surface of the base 20 can be varied and selected by the user. Also, because the earring stand 50, bracelet tree 200 and necklace tree 300 are interchangeable, the jewelry holder can be customized to a user's requirements by allowing the user to select how many earring stands 50, bracelet trees 200 and/or necklace trees 300 the user needs. So some user might need two earring stands 50, one bracelet tree 200 and two necklace trees 300, for example, while another user might select all earring stands 50. Of course a multitude of other options are available. In addition the top surface of the base 20 may have more or less grooves 34 than the particular embodiment illustrated.

Figure 8 is a bottom view of the first base 20 shown in Figure 7. On the bottom surface 102 of the base 20 are preferably four mounting pegs 104



- 7 -

which in a preferred embodiment are short cylindrical-like legs. Figure 9 is a side view of the second base 100 shown in Figure 7 according to a preferred embodiment of the present invention. The second base 100 preferably also have four mounting pegs 106 on its underside and accommodates a drawer 107. Unlike the top surface of the first base 20, however, the top surface of the second base 100 does not have grooves for slidably receiving a plurality of stands. Instead, in a preferred embodiment depressions 108 are formed in the top surface of the second base 100. The depressions 108 are complementary in shape to the mounting pegs 104 on the underside of the first base 20 and are positioned to coincide with the mounting pegs 104 of the first base 20 when the first base 20 is mounted on the second base 100. Thus the first base 20 can be stacked on top of the second base 100 and the combination of the mounting pegs 104 on the bottom surface of the first base 20 and the depressions 108 on the top surface of the second base 100 keep the first base 20 from sliding off the second base 100. Alternatively, other features may be provided on the underside of the first base 20 and the top surface of the second base 100 to allow the two to be stacked together, such as slots and grooves, for example.

Alternatively, a base in the form of a slab (such as base 120 in Figure 5 of the parent application U. S. Serial No. 08/665,734 referred to above) may be provided with mounting pegs on its underside so that it can be mounted on a second base 100 if desired.

It will be appreciated that while only two bases are illustrated, the present invention is not limited to such an embodiment and more bases may be stacked underneath the second base 100.

Figure 10 is a front view of the bracelet tree 200 shown in Figure 7. The bracelet tree 200 has a bottom member 202 that is slidably received in a groove 34 on the base 20 shown in Figure 7. The bottom member 202 allows the bracelet tree 200 to be self-standing when removed from the base. The bracelet tree 200 has a T-shaped member 204 with a central, vertical trunk 206 and a cross bar 208 at the end of the trunk 206 on which bracelets can be mounted as shown. The cross bar 208 of the T-shaped member 204 may be cylindrical, as shown, or

- 8 -

alternatively it may have a crescent moon shape or any other shape onto which bracelets may be mounted. In a preferred embodiment the bracelet tree 200 is formed as an integral unit.

Figure 11 is a front view of the necklace tree 300 shown in Figure 7. The necklace tree 300 is almost the same as the bracelet tree 200 shown in Figure 10 except that its central, vertical trunk 306 is longer in length to accommodate the length of necklaces. In another preferred embodiment the trunk 306 may be tilted as shown in the side view shown in Figure 12 so that when the necklace tree 300 is positioned at the back of the base, necklaces can hang freely without interfering with the top surface of the base as shown in Figure 7.

In a preferred embodiment the necklace tree 300 and the bracelet tree 200 are formed of a plastic, acrylic resin or a plastic consisting essentially of polymerized methyl methacrylate such as LUCITE™ or polystyrene.

Figure 13 is a front view of a ring holder platform 400 according to a preferred embodiment of the present invention. Figure 14 is a top view of the ring holder platform 400 shown in Figure 13. The ring holder platform 400 includes a substantially flat platform 402 on which are formed a plurality of mounds 404 that are preferably conical-like in shape. The mounds 404 are shaped to allow at least one ring to be mounted thereon as shown in Figure 13. In a preferred embodiment four rows and four columns of mounds 404 are provided in a symmetrical fashion although other configurations are possible.

In a preferred embodiment, the platform 400 is rectangular in shape and has a length  $l$  of about 6 and  $5/8^{\text{th}}$  inches and a width  $w$  of about 6 and  $1/2$  inches. The platform 400 is preferably about  $1/4$  inch in thickness and the height  $h$  of the mounds is about 1 and  $1/8^{\text{th}}$  inches from the top surface of the platform. The diameter  $d$  of the top of each mound 404 is about  $7/16^{\text{th}}$  inches and the diameter  $d_2$  of the bottom widest portion of the mound 404 is preferably about  $7/8^{\text{th}}$  inches. The mounds 404 are preferably separated from immediately adjacent mounds by a distance  $s$  of about 1 and  $5/8^{\text{th}}$  inches measured from the centers of the mounds 404.

- 9 -

In a preferred embodiment the ring holder platform 400 is formed of a molded plastic covered by a flock material. The ring holder platform can be inserted in a drawer of either the first or second bases shown in Figure 7.

In another embodiment a plurality of stackable bases may be provided without any of the top surfaces of the bases having grooves to accommodate an earring stand, bracelet tree or necklace tree but instead may have at least one ring holder platform inserted in one of the drawers of a base.

It should be understood that a wide range of changes and modifications can be made to the embodiments described above. It is therefore intended that the foregoing description illustrates rather than limits this invention, and that it is the following claims, including all equivalents, which define this invention.

WHAT IS CLAIMED:

1. A jewelry holder comprising:
  - a first base having a first groove and a second groove;
  - a first stand removably located on the base wherein the first stand has a bottom member that is slidably receivable in either the first groove or the second groove and wherein the bottom member is configured to allow the first stand to be self-supporting when removed from the base; and
  - a second stand removably located on the base wherein the second stand has a bottom member that is slidably receivable in either the first groove or the second groove and wherein the bottom member is configured to allow the second stand to be self-supporting when removed from the base.
2. A jewelry holder according to claim 1 wherein the first stand has a "T" shaped member mounted on the bottom member.
3. A jewelry holder according to claim 2 wherein the T-shaped member has a height that is sufficient to hold at least one bracelet.
4. A jewelry holder according to claim 2 wherein the T-shaped member has a height that is sufficient to hold at least one necklace.
5. A jewelry holder according to claim 2 wherein the second stand has a pair of spaced apart vertical supports joined by at least one crosspiece wherein earrings can be mounted on the crosspiece.
6. A jewelry holder according to claim 5 wherein the at least one crosspiece has at least a pair of apertures for holding pierced-type earrings.
7. A jewelry holder according to claim 1 wherein the first base is a box that includes a top spaced from a bottom, a first side wall opposite and spaced from a

- 11 -

second side wall each of the first and second side walls joining the top and bottom, and a front opposite and spaced from a rear wall such that the rear wall is substantially normal to the first and second side walls and the front defines an opening to slidably receive a drawer.

8. A jewelry holder according to claim 7 further comprising a second base stackable underneath the first base wherein the second base is a box that includes a top spaced from a bottom, a first side wall opposite and spaced from a second side wall each of the first and second side walls joining the top and bottom, and a front opposite and spaced from a rear wall such that the rear wall is substantially normal to the first and second side walls and the front defines an opening to slidably receive a drawer.

9. A jewelry holder according to claim 7 further comprising  
a drawer slidably receivable in the opening of the first base; and  
a platform insertable in the drawer wherein the platform has a plurality of mounds for holding rings thereon.

10. A jewelry holder according to claim 1 further comprising a third groove in the base and a third stand removably located on the base wherein the third stand has a bottom member that is slidably receivable in either the first, second or third groove and wherein the bottom member is configured to allow the third stand to be self-supporting when removed from the base.

11. A jewelry holder according to claim 9 wherein the plurality of mounds are symmetrically arranged on the platform.

12. A jewelry holder according to claim 9 wherein the platform and plurality of mounds are formed of a molded plastic.

- 12 -

13. A jewelry holder comprising:
- a. a box having
    - i. a top spaced from a bottom, the top having at least a first and a second groove to slidably receive a first and a second stand;
    - ii. a first side wall opposite and spaced from a second side wall; and
    - iii. a front opposite and spaced from a rear wall such that the rear wall is substantially normal to the first and second side walls and the front defines an opening to slidably receive a drawer; and
  - b. a first stand removably located on the base wherein the first stand has a bottom member that is slidably receivable in either the first groove or the second groove and wherein the bottom member is configured to allow the first stand to be self-supporting when removed from the base; and
  - c. a second stand removably located on the base wherein the second stand has a bottom member that is slidably receivable in either the first groove or the second groove and wherein the bottom member is configured to allow the second stand to be self-supporting when removed from the base.
14. A jewelry holder according to claim 13 wherein the first stand has a "T" shaped member mounted on the bottom member.
15. A jewelry holder according to claim 14 wherein the T-shaped member has a height that is sufficient to hold at least one bracelet.
16. A jewelry holder according to claim 14 wherein the T-shaped member has a height that is sufficient to hold at least one necklace.
17. A jewelry holder according to claim 14 wherein the second stand has a pair of spaced apart vertical supports joined by at least one crosspiece wherein earrings can be mounted on the crosspiece.

- 13 -

18. A jewelry holder according to claim 17 wherein the at least one crosspiece has at least a pair of apertures for holding pierced-type earrings.

19. A jewelry holder according to claim 13 further comprising a second base stackable underneath the first base wherein the second base is a box that includes a top spaced from a bottom, a first side wall opposite and spaced from a second side wall each of the first and second side walls joining the top and bottom, and a front opposite and spaced from a rear wall such that the rear wall is substantially normal to the first and second side walls and the front defines an opening to slidably receive a drawer.

20. A jewelry holder according to claim 13 further comprising  
a drawer slidably receivable in the opening of the first base; and  
a platform insertable in the drawer wherein the platform has a plurality of mounds for holding rings thereon.

21. A jewelry holder according to claim 13 further comprising a third groove in the base and a third stand removably located on the base wherein the third stand has a bottom member that is slidably receivable in either the first, second or third groove and wherein the bottom member is configured to allow the third stand to be self-supporting when removed from the base.

22. A jewelry holder according to claim 20 wherein the plurality of mounds are symmetrically arranged on the platform.

23. A jewelry holder according to claim 20 wherein the platform and plurality of mounds are formed of a molded plastic.

24. A ring holder comprising:

- 14 -

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a platform; and

a plurality of mounds integrally formed on the platform wherein the plurality of mounds have a shape that allow rings to be mounted thereon.

25. A jewelry holder comprising:

a first box having

i. a top spaced from a bottom,

ii. a first side wall opposite and spaced from a second side wall; and

iii. a front opposite and spaced from a rear wall such that the rear wall is substantially normal to the first and second side walls and the front defines an opening to slidably receive a drawer;

a drawer slidably received in the opening of the box; and

a ring holder having

i. a platform, and

ii. a plurality of mounds integrally formed on the platform wherein the plurality of mounds have a shape that allows rings to be mounted thereon.

26. A jewelry holder according to claim 25 further comprising a second box stackable underneath the first box.



FIG. 1

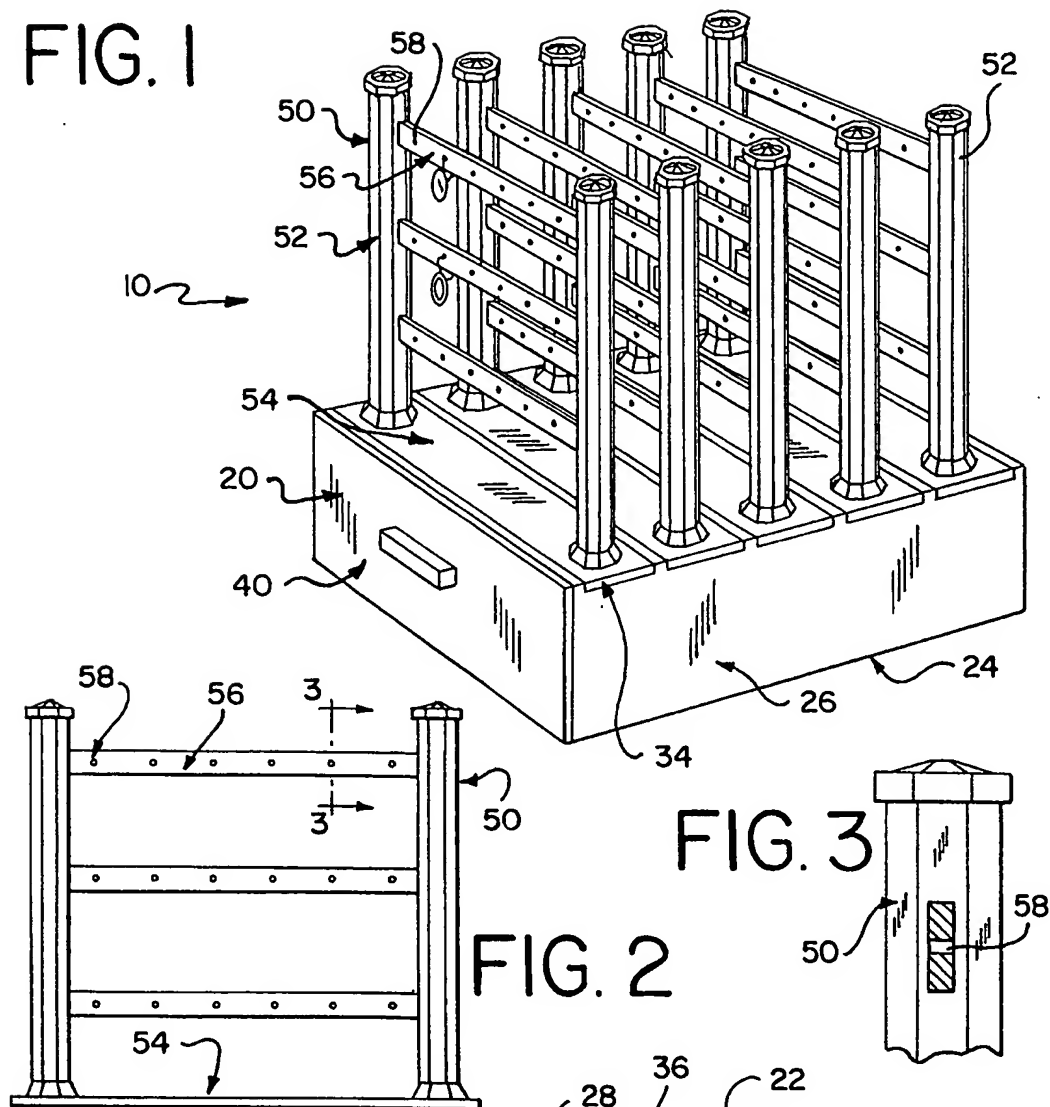


FIG. 3

FIG. 2

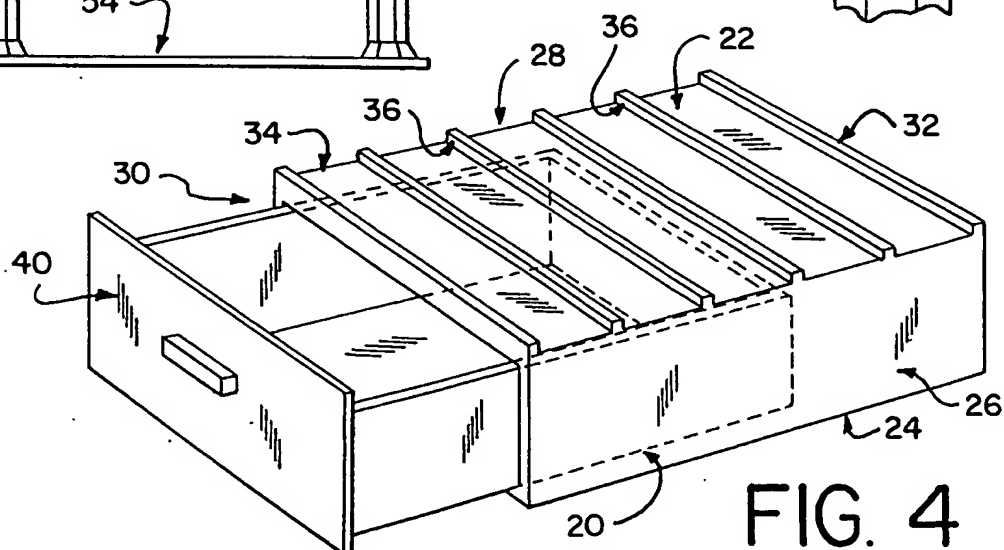


FIG. 4

FIG. 5

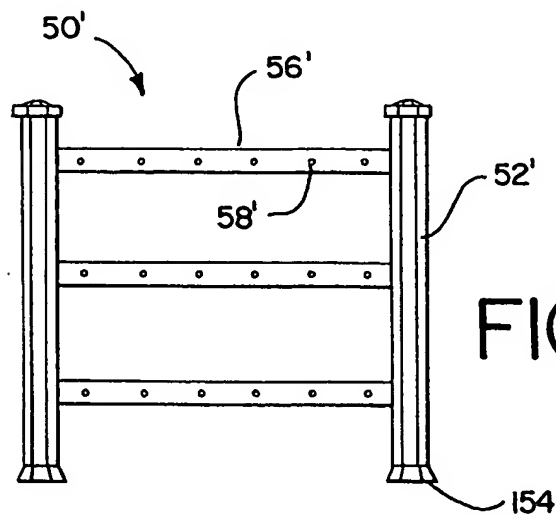
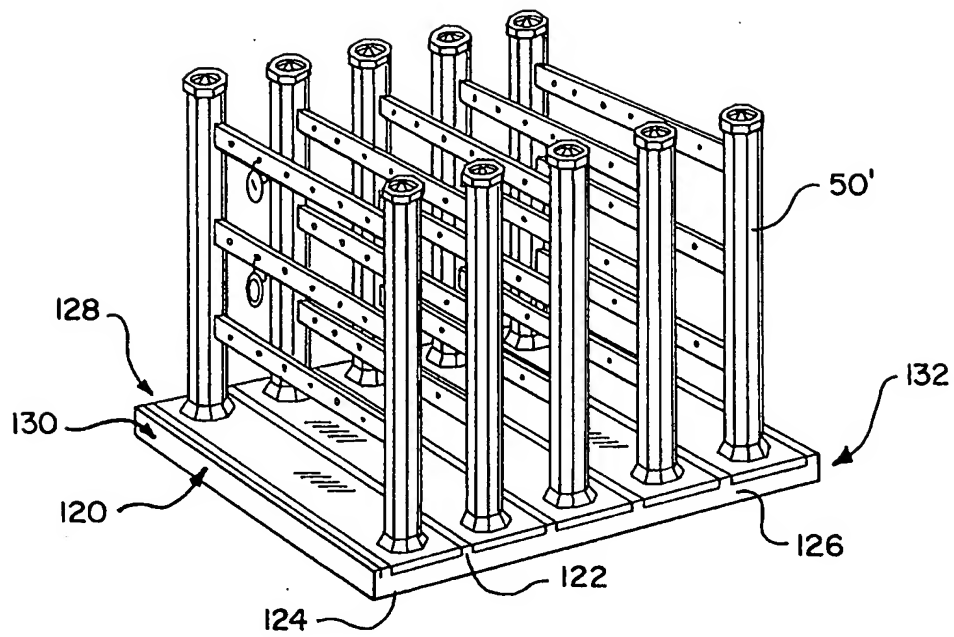


FIG. 6

FIG. 7

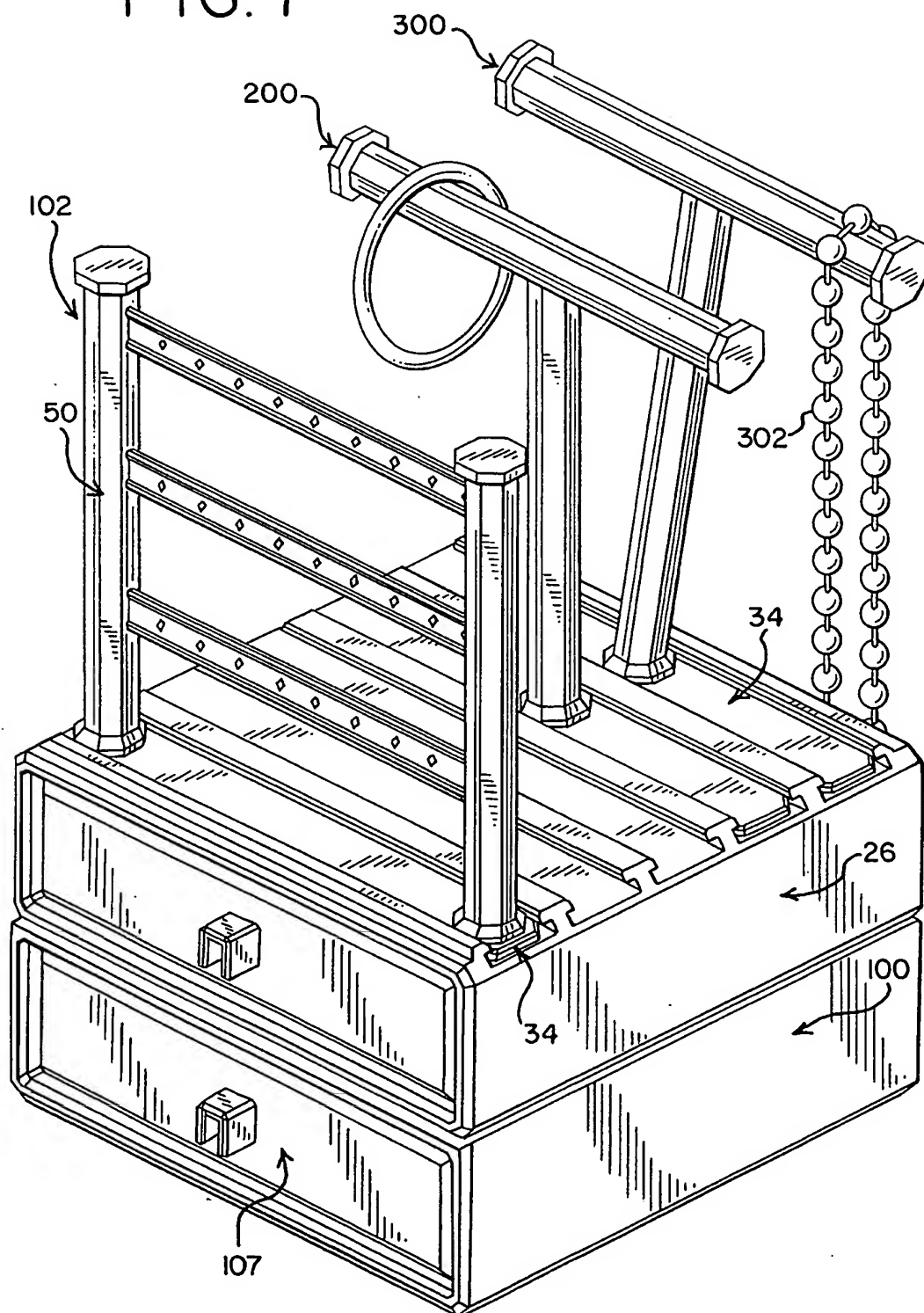
**SUBSTITUTE SHEET (RULE 26)**

FIG. 8

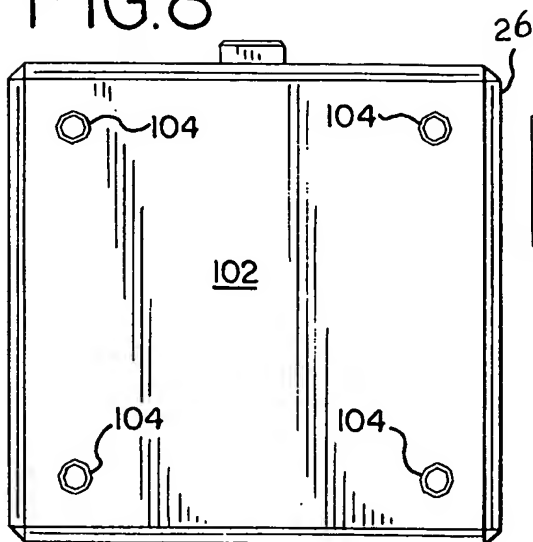


FIG. 9

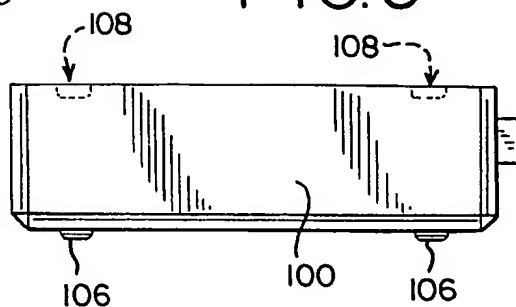


FIG. 10

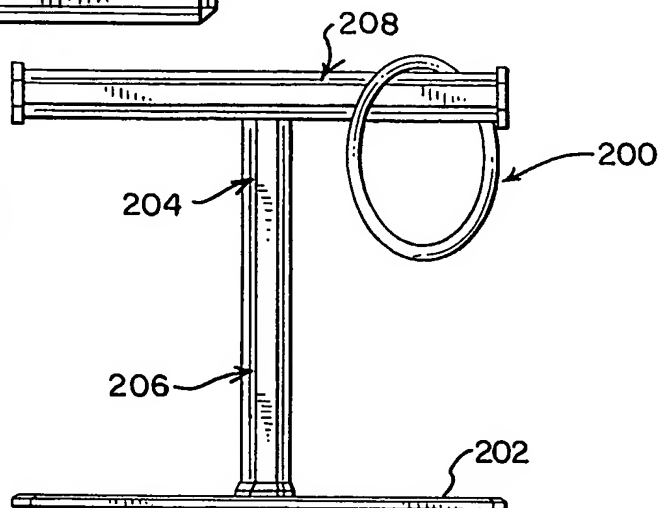


FIG. 11

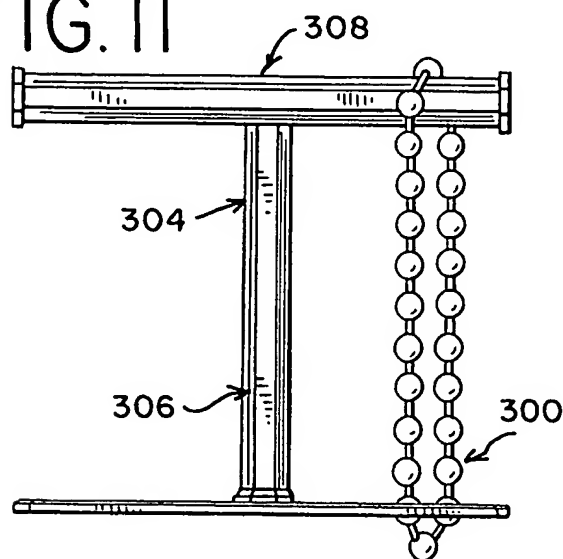


FIG. 12

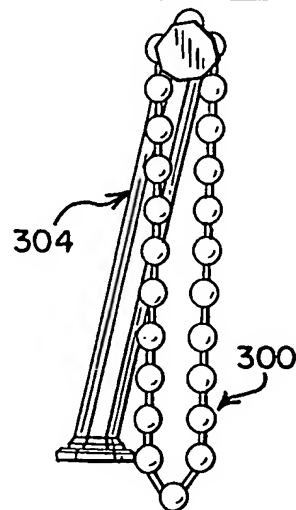


FIG. 13

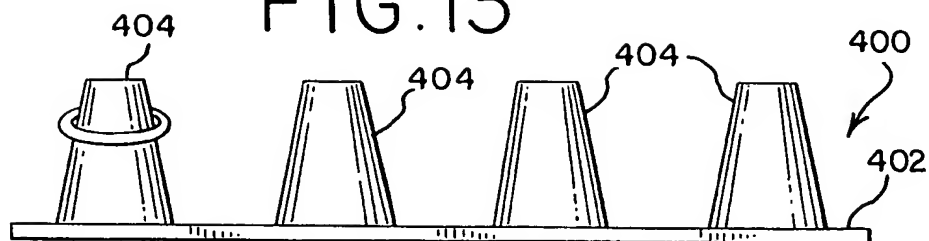
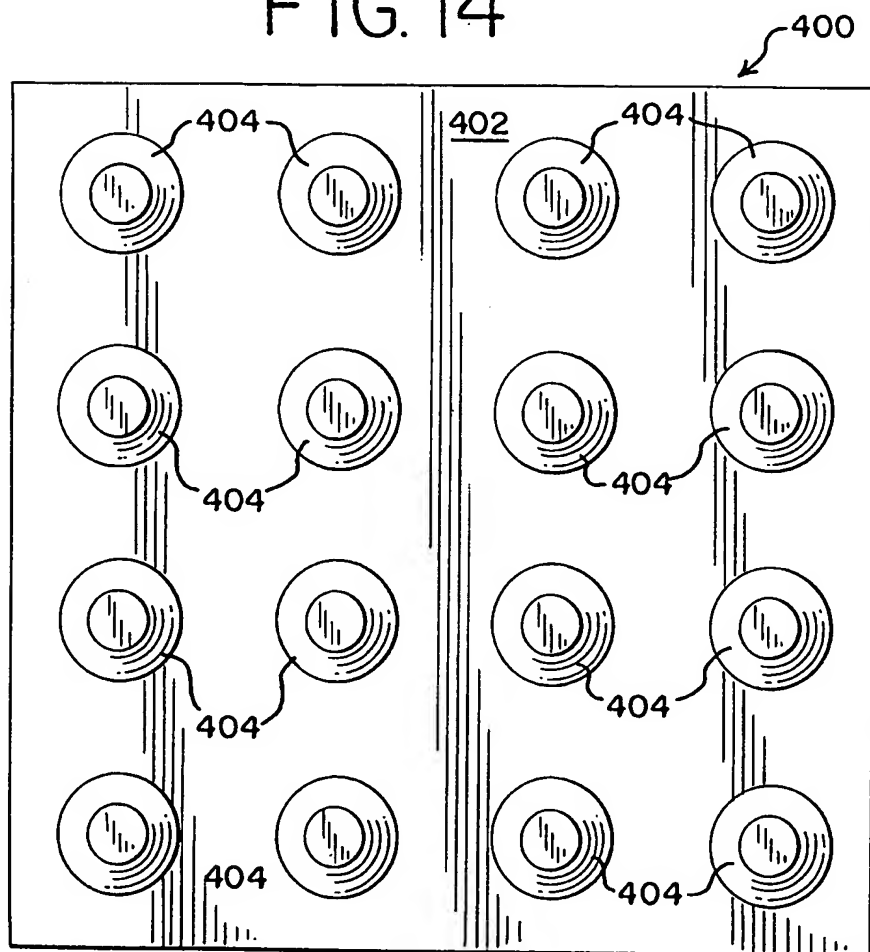


FIG. 14



# INTERNATIONAL SEARCH REPORT

international application No.  
PCT/US98/13495

## A. CLASSIFICATION OF SUBJECT MATTER

IPC(6) : B65D 85/00

US CL : 206/6.1, 566; 211/85.2; 312/107

According to International Patent Classification (IPC) or to both national classification and IPC

## B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

U.S. : 206/6.1, 303, 566, 738; 211/85.2, 119.005, 189; 312/107, 108, 140.4, 234, 237, 280

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched  
NONE

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)  
NONE

## C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X ---- Y	US D315,460 S (SORCE, JR) 19 March 1991, Figures 1 and 10 and claim.	1, 10 ----- 7-9, 11-13, 19-23
X, E	US 5,779,056 A (RUSSELL et al) 14 July 1998, Figures 1A and 1C, column 3, lines 52-59, and column 4, lines 26-38.	1-4
X ---- Y	US 4,341,300 A (ROY) 27 July 1982, Figure 6 and column 5, lines 12-27.	24 ----- 9, 11, 12, 20, 22, 23, 25, 26
Y	US DES. 303,999 S (HANSSON) 17 October 1989, Figure 8 and claim.	7-9, 11-13, 19-23

☒ Further documents are listed in the continuation of Box C. ☐ See patent family annex.

* Special categories of cited documents:	*T* later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention
*A* document defining the general state of the art which is not considered to be of particular relevance	*X* document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone
*E* earlier document published on or after the international filing date	*Y* document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art
*L* document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)	*A* document member of the same patent family
*O* document referring to an oral disclosure, use, exhibition or other means	
*P* document published prior to the international filing date but later than the priority date claimed	

Date of the actual completion of the international search

03 NOVEMBER 1998

Date of mailing of the international search report

19 NOV 1998

Name and mailing address of the ISA/US  
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**INTERNATIONAL SEARCH REPORT**international application No.  
PCT/US98/13495**C (Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT**

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y	US 727,654 A (MACEY) 12 May 1903, Figure 2 and page 2, lines 11-16.	8, 19, 26
Y,P	US 5,649,625 A (OVADIA) 22 July 1997, Figure 2, and column 7, lines 11-15.	12, 23
Y	US 2,470,993 A (KRAMER) 24 May 1949, Figures 1 and 2 and column 1, line 51 through column 2, line 44.	25, 26

# INTERNATIONAL SEARCH REPORT

International application No.  
PCT/US98/13495

## Box I Observations where certain claims were found unsearchable (Continuation of Item 1 of first sheet)

This international report has not been established in respect of certain claims under Article 17(2)(a) for the following reasons:

1. ☐ Claims Nos.:  
because they relate to subject matter not required to be searched by this Authority, namely:
2. ☐ Claims Nos.:  
because they relate to parts of the international application that do not comply with the prescribed requirements to such an extent that no meaningful international search can be carried out, specifically:
3. ☐ Claims Nos.:  
because they are dependent claims and are not drafted in accordance with the second and third sentences of Rule 6.4(a).

## Box II Observations where unity of invention is lacking (Continuation of Item 2 of first sheet)

This International Searching Authority found multiple inventions in this international application, as follows:

Please See Extra Sheet.

1. ☐ As all required additional search fees were timely paid by the applicant, this international search report covers all searchable claims.
2. ☐ As all searchable claims could be searched without effort justifying an additional fee, this Authority did not invite payment of any additional fee.
3. ☒ As only some of the required additional search fees were timely paid by the applicant, this international search report covers only those claims for which fees were paid, specifically claims Nos.:  
1-26
4. ☐ No required additional search fees were timely paid by the applicant. Consequently, this international search report is restricted to the invention first mentioned in the claims; it is covered by claims Nos.:

Remark on Protest

- ☐ The additional search fees were accompanied by the applicant's protest.  
☒ No protest accompanied the payment of additional search fees.



# INTERNATIONAL SEARCH REPORT

International application No.

PCT/US98/13495

## BOX II: OBSERVATIONS WHERE UNITY OF INVENTION WAS LACKING

This ISA found multiple inventions as follows:

This application contains claims directed to more than one species of the generic invention. These species are deemed to lack Unity of Invention because they are not so linked as to form a single inventive concept under PCT Rule 13.1. In order for more than one species to be searched, the appropriate additional search fees must be paid. The species are as follows:

- A. The species represented in Figures 1-5,
- B. The species represented in Figures 7-12,
- C. The species represented in Figures 13 and 14.

The claims are deemed to correspond to the species listed above in the following manner:

For the species of A - claims 1, 7, 10, 13 and 21

For the species of B - claims 1-8, 10, 13-19 and 21

For the species of C - claims 9, 11, 12, 20 and 22-26

The following claims are generic: NONE

The species listed above do not relate to a single inventive concept under PCT Rule 13.1 because, under PCT Rule 13.2, the species lack the same or corresponding special technical features for the following reasons: the only common technical feature between the species is a base, which clearly would have not been novel or unobvious. Therefore such cannot be considered to be a special technical feature.